Docket No.: SON-2981
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Nobukata Okano et al.

Application No.: 10/809,432 | Confirmation No.: 8124

Filed: March 26, 2004 | Art Unit: 2613

For: COMMUNICATIONS SYSTEM AND COMMUNICATIONS LIGHTING APPARATUS | Examiner: D. S. Kim

APPELLANT'S BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

This is an Appeal Brief under 37 C.F.R. §41.37 appealing the final decision of the Examiner dated December 19, 2008. Each of the topics required by 37 C.F.R. §41.37 is presented herewith and is labeled appropriately. This brief is in furtherance of the Final Office Action of December 19, 2008.

A Notice of Appeal was filed in this case on March 13, 2009, along with a Request for Panel Review. The Notice of Panel Decision from Pre-Appeal Brief Review mailed on March 31, 2009 ("the Decision) indicates that claims 24, 29, 40-59 remain rejected.

The Decision further indicates that the extendable time period for the filing of the Appellant's Brief will be reset to be one month from the mailing of the Decision. Accordingly, the filing of this Appellant's Brief is timely. 37 C.F.R. §1.136.

I. REAL PARTY IN INTEREST

Sony Corporation of Tokyo, Japan ("Sony") is the real party in interest of the present application. An assignment of all rights in the present application to Sony was executed by the inventor and recorded by the U.S. Patent and Trademark Office at **reel 015155, frame 0764**.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Within the Final Office Action of December 19, 2008:

Paragraph 5 of the Office Action includes a rejection of claims 24, 43-52, 57, and 58 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu).

Paragraph 6 of the Office Action includes a rejection of claims 29 and 40 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and in further view of *Newton's Telecom Dictionary* (Newton's).

Paragraph 7 of the Office Action includes a rejection of claims 41 and 42 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of U.S. Patent No. 5,218,466 (Brooks).

Paragraph 8 of the Office Action includes a rejection of claims 53 and 54 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO

02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "*Optical Networks*" (Ramaswami).

Paragraph 9 of the Office Action includes a rejection of claim 55 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "*Optical Networks*" (Ramaswami) and "*Hot New Beam May Zap Bandwidth Bottleneck*" (Service).

Paragraph 10 of the Office Action includes a rejection of claim 56 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "*Optical Networks*" (Ramaswami) and "*Hot New Beam May Zap Bandwidth Bottleneck*" (Service).

Paragraph 11 of the Office Action includes a rejection of claim 59 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of U.S. Patent No. 6,198,230 (Leeb).

Thus, the status of the claims is as follows:

Claims 1-23: Canceled

Claim 24: Rejected

Claims 25-28: Canceled

Claim 29: Rejected

Claims 30-39: Canceled

Claims 40-59: Rejected

No claims are indicated within the Final Office Action to contain allowable subject matter.

Accordingly, Appellant hereby appeals the final rejection of claims 24, 29, 40-59 which are presented in the Claims Appendix.

IV. STATUS OF AMENDMENTS

Provided is a statement of the status of any amendment filed subsequent to final rejection.

Subsequent to the final rejection of December 19, 2008, an Amendment After Final Action Under 37 C.F.R. 1.116 has been filed in this case. The Advisory Action of February 9, 2009 indicates entry of the Amendment.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following description is provided for illustrative purposes and is not intended to limit the scope of the invention.

24. A communications system comprising:	
a communications lighting apparatus having an illumination light source adapted to emit illumination light and an information-transmitting unit adapted to emit an optical signal,	Specification paragraph beginning at page 11, line 2
wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources, and	Specification paragraph beginning at page 11, line 2
wherein said information-transmitting unit is mounted on said illumination light source.	Specification paragraph beginning at page 11, line 2

29. A communications system comprising:	
a communications lighting apparatus having an illumination light source adapted to emit illumination light and an information-transmitting unit adapted to emit an optical signal,	Specification paragraph beginning at page 11, line 2
wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources, and	Specification paragraph beginning at page 11, line 2
wherein said information-transmitting unit includes a recording medium and a reading section,	Specification paragraph beginning at page 8, line 3; Specification paragraph beginning at page 8, line 13
said reading section being adapted to read information stored in said recording medium,	Specification paragraph beginning at page 8, line 13
said recording medium being removable from said information-transmitting unit.	Specification paragraph beginning at page 8, line 13

41. A communications system according to claim 24, further comprising a fourth light source unit adapted to emit a visible light beam.	Specification paragraph beginning at page 10, line 15; Specification paragraph beginning at page 14, line 15

53. A communications system according to claim 24, wherein said information-transmitting unit has an end-plane emission semiconductor laser used as a light source.	Specification paragraph beginning at page 3, line 18

54. A communications system according to claim 24, wherein said information-transmitting unit has a vertical-plane emission semiconductor laser used as a light source.	Specification paragraph beginning at page 3, line 18

55. A communications system according to claim 24, wherein said information-transmitting unit has a quantum-cascade semiconductor laser used as a light source.	Specification paragraph beginning at page 3, line 18

56. A communications system according to claim 24, wherein said information-transmitting unit is a combination of an end-plane emission semiconductor laser, a vertical-plane emission semiconductor laser, and a quantum-cascade semiconductor layer.	Specification paragraph beginning at page 3, line 18

59. A communications system according to claim 58, wherein said mobile terminal device is adapted to display contents of said optical signal.	Specification paragraph beginning at page 6, line 3

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The issues presented for consideration in this appeal are as follows:

Whether the Examiner erred in rejecting claims 24, 43-52, 57, and 58 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu).

Whether the Examiner erred in rejecting claims 29 and 40 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and in further view of *Newton's Telecom Dictionary* (Newton's).

Whether the Examiner erred in rejecting claims 41 and 42 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of U.S. Patent No. 5,218,466 (Brooks).

Whether the Examiner erred in rejecting claims 53 and 54 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "*Optical Networks*" (Ramaswami).

Whether the Examiner erred in rejecting claim 55 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "*Optical Networks*" (Ramaswami) and "*Hot New Beam May Zap Bandwidth Bottleneck*" (Service).

Whether the Examiner erred in rejecting claim 56 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "*Optical Networks*" (Ramaswami) and "*Hot New Beam May Zap Bandwidth Bottleneck*" (Service).

Whether the Examiner erred in rejecting claim 59 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of U.S. Patent No. 6,198,230 (Leeb).

These issues will be discussed hereinbelow.

VII. ARGUMENT

In the Office Action of December 19, 2008:

The Examiner erred in rejecting claims 24, 43-52, 57, and 58 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu).

The Examiner erred in rejecting claims 29 and 40 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and in further view of *Newton's Telecom Dictionary* (Newton's).

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The Examiner erred in rejecting claims 53 and 54 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "*Optical Networks*" (Ramaswami).

The Examiner erred in rejecting claim 55 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "*Optical Networks*" (Ramaswami) and "*Hot New Beam May Zap Bandwidth Bottleneck*" (Service).

The Examiner erred in rejecting claim 56 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "*Optical Networks*" (Ramaswami) and "*Hot New Beam May Zap Bandwidth Bottleneck*" (Service).

The Examiner erred in rejecting claim 59 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of U.S. Patent No. 6,198,230 (Leeb).

For at least the following reasons, Appellant submits that this rejection is both technically and legally unsound and should therefore be reversed.

For purposes of this appeal brief only, and without conceding the teachings of any prior art reference, the claims have been grouped as indicated below.

The Examiner erred in rejecting claims 24, 43-52, 57, and 58 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu).

This rejection is traversed at least for the following reasons.

Claims 24, 43-52, 57, and 58 - Claims 43-52, 57, and 58 are dependent upon claim 24. Claim 24 is drawn to a communications system comprising:

> a communications lighting apparatus having an illumination light source adapted to emit illumination light and an information-transmitting unit adapted to emit an optical signal,
>
> wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources, and
>
> wherein said information-transmitting unit is mounted on said illumination light source.

Claim 24 includes a communications lighting apparatus having an illumination light source (4) adapted to emit illumination light and an information-transmitting unit (5) adapted to emit an optical signal,

wherein said information-transmitting unit (5) has light sources (52, 53), a light beam from one of said light sources (52, 53) being emitted independent of a light beam from another of said light sources (52, 53).

Figure 4B of the specification as originally filed is provided hereinbelow.

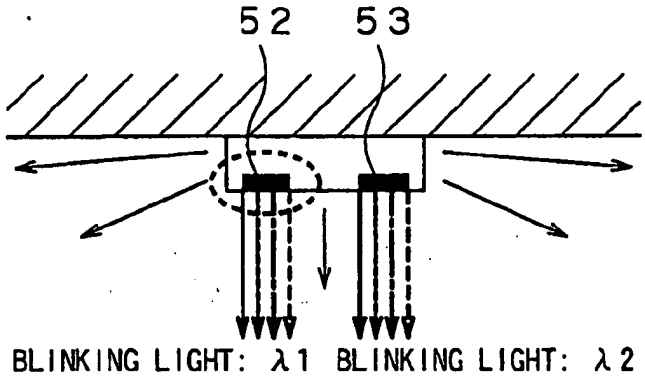


FIG.4B

Dowling - Figure 1 of Dowling is provided hereinbelow.

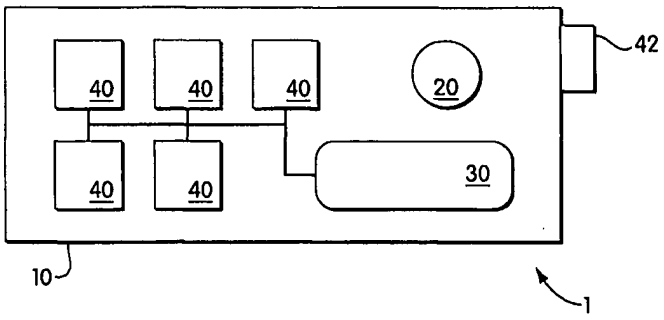


FIGURE 1

Although Figure 1 of Dowling arguably depicts the presence of a lighting element 20, Figure 1 of Dowling ***fails*** to disclose, teach or suggest communications lighting apparatus having both an ***illumination light source*** and an ***information-transmitting unit***.

Figure 3 of Dowling is provided hereinbelow.

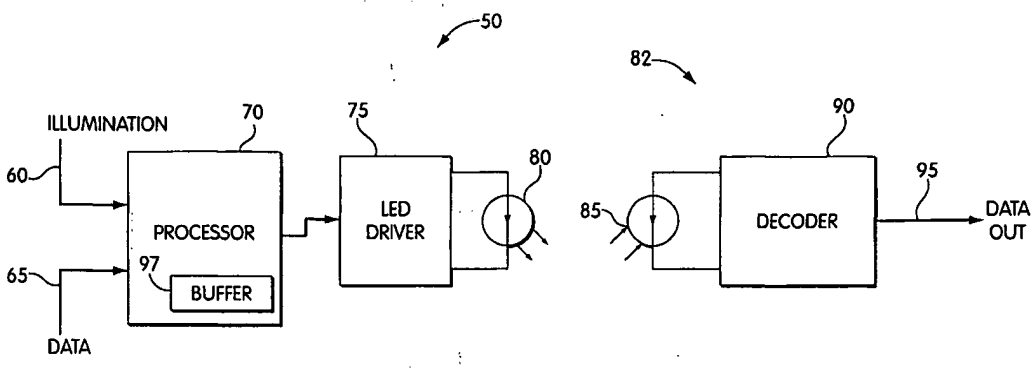


Fig. 3

Regarding Figure 3, Dowling arguably discloses that the single LED system includes a transmitter 50 comprising an illumination signal input 60, a data input 65, a processor 70, an LED driver 75, and an LED 80 (Dowling at page 34, lines 18-20).

Nevertheless, Figure 3 of Dowling ***fails*** to disclose, teach or suggest communications lighting apparatus having both ***an illumination light source*** *adapted to emit* illumination light and ***an information-transmitting unit*** *adapted to emit* an optical signal.

Instead, page 3 of the Office Action contends that Dowling discloses a communications system comprising:

> a communications lighting apparatus (Dowling, Fig. 5) having an illumination light source adapted to emit illumination light (Dowling, light source 132) and an information-transmitting unit adapted to emit an optical signal (Dowling, transmitter 136).

Figure 5 of Dowling is provided hereinbelow.

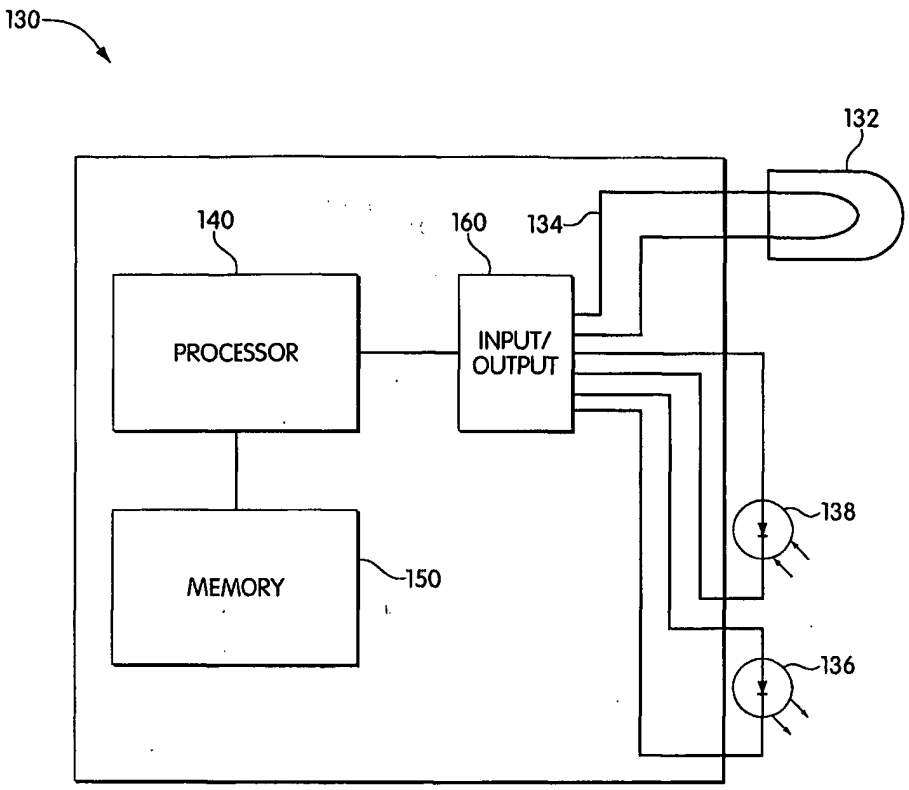


Fig. 5

Page 3 of the Office Action ***identifies element 136 of Dowling as an information-transmitting unit 136***.

But within independent claim 24, said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

However, Figure 5 of Dowling *fails* to depict the alleged information-transmitting unit 136 as having more than one light source.

As a result, Figure 5 of Dowling ***fails*** to disclose, teach, or suggest that a light beam from one of the light sources is emitted independent of a light beam from another of the light sources.

Instead, the Office Action refers to Figure 7 of Dowling for the features that are absent from within Figure 5 of Dowling (Office Action at page 3).

In response, the teachings found within a single prior art reference can render a claim obvious. *Sibia Neurosciences Inc. v. Cadus Pharmaceutical Corp.*, 225 F.3d 1349, 1355-56, 55 USPQ2d 1927, 1931 (Fed. Cir. 2000).

Figure 7 of Dowling is provided hereinbelow.

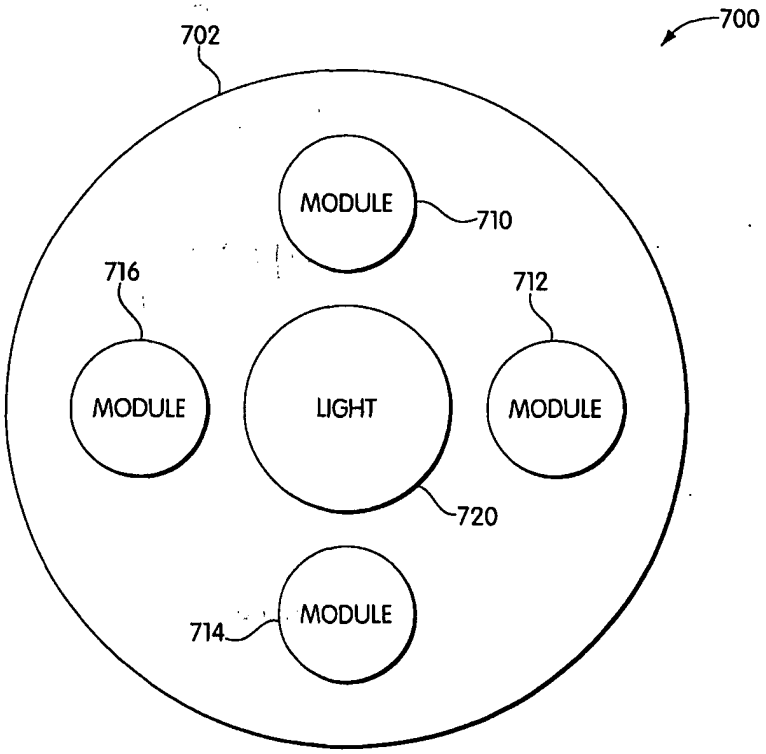


Fig. 7

Dowling arguably teaches that the modular lighting subsystem 700 may include a *base 702 that forms a universal platform for a number of modules 710,712,714,716* (Dowling at page 44, lines 16-17).

The *base 702 may include* ***a light 720***, such as an LED source or some other light source, and that the ***light 720*** may form a discrete lighting area, such as a lens, within the base 702, or *the base 702 may be formed of a diffusing material so that the light 720 provides illumination throughout the base 702* (Dowling at page 44, lines 18-21).

Each *module 710,712,714,716* may fit into a cradle within the *base 702*, which may be any shape adapted to receive the module (Dowling at page 45, lines 4-5).

A *fourth module* ***716*** may provide output devices such as a speaker, ***an LED or LCD display, additional lights or LED's***, or some other output device (Dowling at page 45, lines 17-19).

But when obviousness is based on a particular prior art reference, there *must* be a showing of a suggestion or motivation to modify the teachings of *that reference*. *B.F. Goodrich Co. v. Aircraft Braking Systems Corp.*, 72 F.3d 1577, 1582, 37 USPQ2d 1314, 1318 (Fed. Cir. 1996).

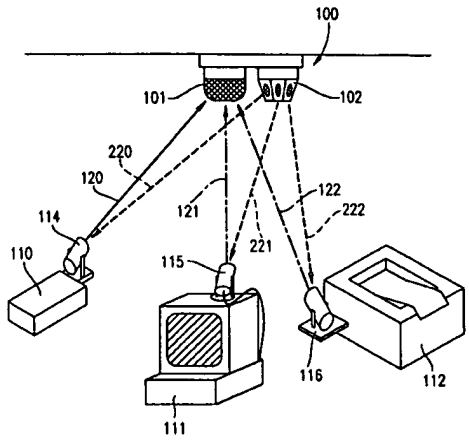
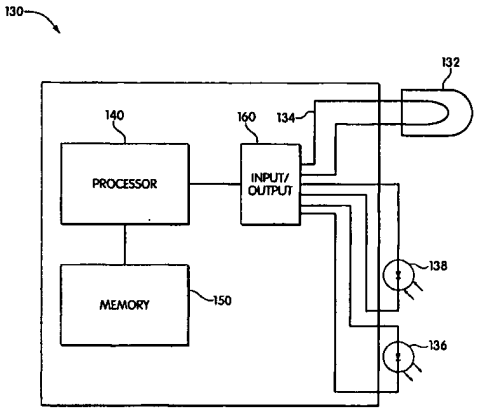
In this regard, the Office Action ***fails*** to show a suggestion or motivation that would have lead the skilled artisan to modify Figure 5 of Dowling with the teachings of Figure 7 of Dowling.

But even if the Office Action shows the requisite suggestion or motivation, Dowling ***fails*** to disclose, teach, or suggest a light beam from one of the light sources (702, 716) being emitted independent of a light beam from another of the light sources (716, 702).

Moreover, Dowling ***fails*** to disclose, teach, or suggest that a light beam from one of the light sources of the fourth module 716 of Dowling is ***emitted independent*** of a light beam from another of the light sources of the fourth module 716 of Dowling.

- ***Thus, Dowling <u>fails</u> to teach a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.***

<u>Hiramatsu</u> - The following is noted during a comparison of Dowling and Hiramatsu.

Hiramatsu at Figure 1	Dowling at Figure 5
FIG. 1  	 Fig. 5
imaging receiver 101	receiver 138
transmitter 102	transmitter 136
	light source 132

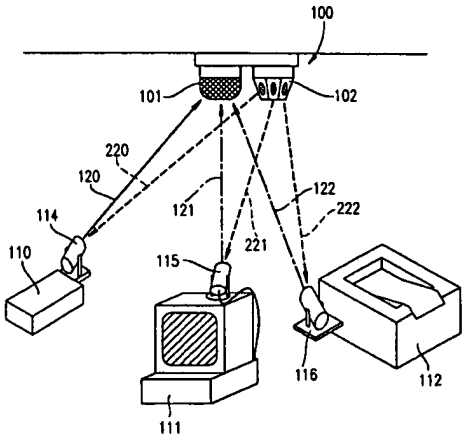
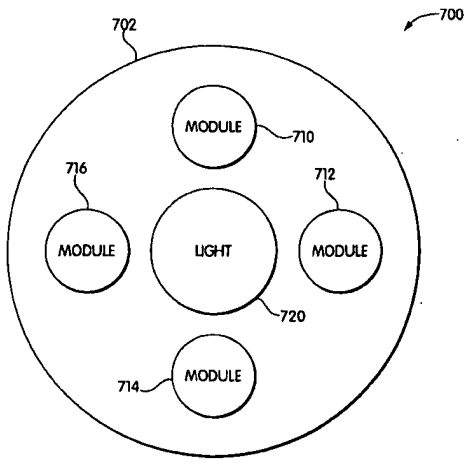
Within independent claim 24, said <u>information-transmitting unit</u> has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

However, Figure 1 of Hiramatsu ***fails*** to depict the transmitter 102 as having more than one light source.

Additionally, Figure 5 of Dowling ***fails*** to depict the light source 132 as having more than one light source.

Furthermore, Figure 5 of Dowling **fails** to depict the transmitter 136 as having more than one light source.

In a further attempt to provide some clarity that is absent from the Office Action, the following is noted during an alternative comparison of Dowling and Hiramatsu.

Hiramatsu at Figure 1	Dowling at Figure 7
FIG. 1  	 Fig. 7
imaging receiver 101	third module 714
transmitter 102	fourth module 716
	light 720

Regarding Dowling, this reference arguably discloses that a *third module 714* may provide sensors such as microphones, temperature sensors, digital cameras, *or, for example, any of the sensors discussed above* (Dowling at page 45, lines 15-17).

Furthermore, a *fourth module 716* may provide output devices such as a speaker, ***an LED or LCD display***, ***additional lights or LED's***, or some other output device (Dowling at page 45, lines 17-19).

Nevertheless, Figure 7 of Dowling ***fails*** to disclose, teach, or suggest that a light beam from one of the light sources of the fourth module 716 of Dowling is ***emitted independent*** of a light beam from another of the light sources of the fourth module 716 of Dowling.

Figure 1 of Hiramatsu ***fails*** to depict the transmitter 102 as having more than one light source.

Hiramatsu arguably teaches that in FIG. 1, the *transmitter-receivers 114 through 116* transmit beams toward the imaging receiver 101 (Hiramatsu at column 5, lines 56-59).

Here, the Advisory Action of February 9, 2009 proffers that the standing rejections do **not** rely on transmitter-receivers 114-116 of Hiramatsu, but instead relies on *multi-beam transmitter 102* in Fig. 1 of Hiramatsu (Advisory Action at page 3).

As a result of this proffer, the Advisory Action ***appears to negate the transmitter-receivers 114 through 116 of Hiramatsu*** being either the claimed illumination light or the claimed information-transmitting unit.

- ***Thus, Dowling and Hiramatsu, either individually or as a whole, fail to teach a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.***

The Examiner erred in rejecting claims 29 and 40 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and in further view of Newton's Telecom Dictionary (Newton).

This rejection is traversed at least for the following reasons.

Claim 29 - Claim 9 is drawn to a communications system comprising:

a communications lighting apparatus having an illumination light source adapted to emit illumination light and an information-transmitting unit adapted to emit an optical signal,

wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources, and

wherein said information-transmitting unit includes a recording medium and a reading section,

said reading section being adapted to read information stored in said recording medium,

said recording medium being removable from said information-transmitting unit.

Claim 40 - Claim 40 is drawn to a communications system according to claim 24, wherein said information-transmitting unit includes a recording medium and a reading section,

said reading section being adapted to read information stored in said recording medium,

said recording medium being removable from said information-transmitting unit.

Dowling and Hiramatsu - In addition to the reasons provided hereinabove with respect to at least claim 24, Dowling and Hiramatsu ***fail*** to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

Newton - Newton ***fails*** to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

- ***Thus, Dowling, Hiramatsu, and Newton either individually or as a whole, fail to teach a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.***

The Examiner erred in rejecting claims 41 and 42 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of U.S. Patent No. 5,218,466 (Brooks).

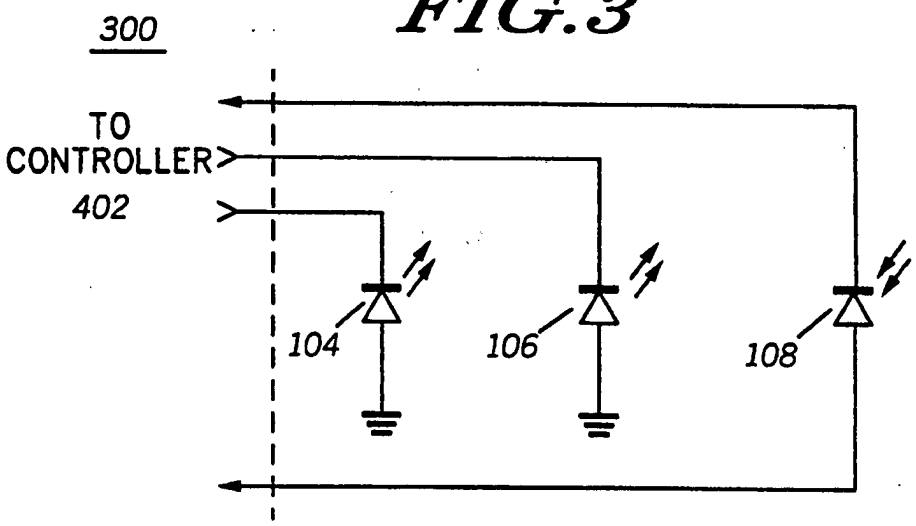
This rejection is traversed at least for the following reasons.

Claims 41-42 - Claim 42 is dependent upon claim 41. Claim 41 is drawn to a communications system according to claim 24, further comprising a fourth light source unit adapted to emit a visible light beam.

Dowling and Hiramatsu - In addition to the reasons provided hereinabove with respect to at least claim 24, the Office Action ***readily admits*** that Dowling and Hiramatsu ***fail*** to disclose a third light source unit adapted to emit a visible light beam (Office Action at page 7).

Brooks - Brooks arguably discloses that the light apparatus 100, having the light pipe 102, the ***visible indicator light 104***, and the ***infrared light 106***, and the ***infrared detector 108*** is described (Brooks at column 3, lines 59-62). Figure 3 of Brooks is provided hereinbelow.

FIG. 3



However, Brooks ***fails*** to disclose, teach, or suggest the visible indicator light 104 as having more than one light source.

Furthermore, Brooks ***fails*** to disclose, teach, or suggest the infrared light 106 as having more than one light source.

- ***Thus, Brooks, fails to teach a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.***

- ***Additionally, Dowling, Hiramatsu, and Brooks either individually or as a whole, fail to teach a communication system further comprising a fourth light source unit adapted to emit a visible light beam.***

The Examiner erred in rejecting claims 53 and 54 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "Optical Networks" (Ramaswami).

This rejection is traversed at least for the following reasons.

Claim 53 - Claim 53 is drawn to a communications system according to claim 24, wherein said information-transmitting unit has an end-plane emission semiconductor laser used as a light source.

Claim 54 - Claim 54 is drawn to a communications system according to claim 24, wherein said information-transmitting unit has a vertical-plane emission semiconductor laser used as a light source.

Dowling and Hiramatsu - In addition to the reasons provided hereinabove with respect to at least claim 24, Dowling and Hiramatsu ***fail*** to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

Ramaswami - Ramaswami ***fails*** to disclose to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

- ***Thus, Dowling, Hiramatsu, and Ramaswami either individually or as a whole, fail to teach a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.***

The Examiner erred in rejecting claim 55 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "Optical Networks" (Ramaswami) and "Hot New Beam May Zap Bandwidth Bottleneck" (Service).

This rejection is traversed at least for the following reasons.

Claim 55 - Claim 55 is drawn to a communications system according to claim 24, wherein said information-transmitting unit has a quantum-cascade semiconductor laser used as a light source.

Dowling and Hiramatsu - In addition to the reasons provided hereinabove with respect to at least claim 24, Dowling and Hiramatsu ***fail*** to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

Ramaswami - Ramaswami ***fails*** to disclose to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

Service - Service ***fails*** to disclose to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

- ***Thus, Dowling, Hiramatsu, Ramaswami, and Service either individually or as a whole, fail to teach a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.***

The Examiner erred in rejecting claim 56 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of "Optical Networks" (Ramaswami) and "Hot New Beam May Zap Bandwidth Bottleneck" (Service).

This rejection is traversed at least for the following reasons.

Claim 56 - Claim 56 is drawn to a communications system according to claim 24, wherein said information-transmitting unit is a combination of an end-plane emission semiconductor laser, a vertical-plane emission semiconductor laser, and a quantum-cascade semiconductor layer.

Dowling and Hiramatsu - In addition to the reasons provided hereinabove with respect to at least claim 24, Dowling and Hiramatsu ***fail*** to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

Ramaswami - Ramaswami ***fails*** to disclose to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

Service - Service ***fails*** to disclose to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

- ***Thus, Dowling, Hiramatsu, Ramaswami, and Service either individually or as a whole, fail to teach a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.***

The Examiner erred in rejecting claim 59 under 35 U.S.C. §103 as allegedly being unpatentable over International Publication No. WO 02/25842 (Dowling) in view of U.S. Patent No. 7,099,589 (Hiramatsu), and further in view of U.S. Patent No. 6,198,230 (Leeb).

This rejection is traversed at least for the following reasons.

Claim 59 - Claim 56 is drawn to a communications system according to claim 58, wherein said mobile terminal device is adapted to display contents of said optical signal.

Dowling and Hiramatsu - In addition to the reasons provided hereinabove with respect to at least claim 24, the Office Action ***readily admits*** that Dowling and Hiramatsu ***fail*** to disclose mobile terminal device that is adapted to display contents of said optical signal (Office Action at page 9).

Leeb - Leeb ***fails*** to disclose to disclose, teach, or suggest a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.

- ***Thus, Dowling, Hiramatsu, and Leeb either individually or as a whole, fail to teach a communication system wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources.***

Conclusion

The claims are considered allowable for the same reasons discussed above, as well as for the additional features they recite.

Reversal of the Examiner's decision is respectfully requested.

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Dated: April 29, 2008

Respectfully submitted,

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CLAIMS APPENDIX

1-23. (Canceled)

24. A communications system comprising:

a communications lighting apparatus having an illumination light source adapted to emit illumination light and an information-transmitting unit adapted to emit an optical signal,

wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources, and

wherein said information-transmitting unit is mounted on said illumination light source.

25-28. (Canceled)

29. A communications system comprising:

a communications lighting apparatus having an illumination light source adapted to emit illumination light and an information-transmitting unit adapted to emit an optical signal,

wherein said information-transmitting unit has light sources, a light beam from one of said light sources being emitted independent of a light beam from another of said light sources, and

wherein said information-transmitting unit includes a recording medium and a reading section,

said reading section being adapted to read information stored in said recording medium,

said recording medium being removable from said information-transmitting unit.

30-39. (Canceled)

40. A communications system according to claim 24, wherein said information-transmitting unit includes a recording medium and a reading section,

said reading section being adapted to read information stored in said recording medium,

said recording medium being removable from said information-transmitting unit.

41. A communications system according to claim 24, further comprising a fourth light source unit adapted to emit a visible light beam.

42. A communications system according to claim 41, wherein said visible light beam indicates a region in which said optical signal emitted from said information-transmitting unit is receivable.

43. A communications system according to claim 24, wherein said illumination light source intermittently emits another optical signal in a predetermined pattern.

44. A communications system according to claim 24, wherein light beams from said light sources are of the same wavelength.

45. A communications system according to claim 24, wherein light beams from said light sources are of different wavelengths.

46. A communications system according to claim 24, wherein said information-transmitting unit includes a light source section, said light source section being adapted to emit said optical signal.

47. A communications system according to claim 46, wherein said optical signal includes information.

48. A communications system according to claim 24, wherein said information-transmitting unit includes an interface, said interface being adapted to receive an input signal from an external device.

49. A communications system according to claim 48, wherein said information-transmitting unit includes a recording section, said recording section being adapted to record said input signal.

50. A communications system according to claim 48, wherein said interface is a Universal Serial Bus (USB).

51. A communications system according to claim 48, wherein said interface is a fiber connector.

52. A communications system according to claim 24, wherein said information-transmitting unit has an emission band in the near-infrared band, the intermediate far-infrared band or a longer wavelength band.

53. A communications system according to claim 24, wherein said information-transmitting unit has an end-plane emission semiconductor laser used as a light source.

54. A communications system according to claim 24, wherein said information-transmitting unit has a vertical-plane emission semiconductor laser used as a light source.

55. A communications system according to claim 24, wherein said information-transmitting unit has a quantum-cascade semiconductor laser used as a light source.

56. A communications system according to claim 24, wherein said information-transmitting unit is a combination of an end-plane emission semiconductor laser, a vertical-plane emission semiconductor laser, and a quantum-cascade semiconductor layer.

57. A communications system according to claim 24, wherein said light sources emit said optical signal.

58. A communications system according to claim 57, further comprising:

a mobile terminal device adapted to receive said optical signal.

59. A communications system according to claim 58, wherein said mobile terminal device is adapted to display contents of said optical signal.

EVIDENCE APPENDIX

There is no other evidence which will directly affect or have a bearing on the Board's decision in this appeal.

RELATED PROCEEDINGS APPENDIX

There are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.